

--22. A semiconductor device comprising:

a semiconductor chip having a main surface and a rear surface opposite to said main surface, said semiconductor chip having a plurality of semiconductor elements and bonding pads formed on said main surface, and an organic film formed to cover said main surface, said organic film having openings exposing said bonding pads;

a lead frame having a die pad for supporting said semiconductor chip and a plurality of leads each having an inner lead and an outer lead that is continuously formed with said inner lead, said plurality of leads arranged to surround said die pad;

a plurality of bonding wires electrically connecting said inner leads of said plurality of leads with said plurality of bonding pads respectively; and

a resin body sealing said semiconductor chip, said inner leads of said plurality of leads, said die pad and said plurality of bonding wires;

wherein a size of said die pad is smaller than a size of said semiconductor chip in a plane view;

wherein said semiconductor chip is disposed on said die pad such that said rear surface of said semiconductor chip is fixed to said die pad by an adhesive,

wherein parts of said resin body contact with said organic film of said semiconductor chip and a portion of said rear surface of said semiconductor chip except for an area to which said die pad is fixed.--

--23. A semiconductor device according to claim 22, wherein said semiconductor chip further includes an inorganic film to cover said main surface and expose said bonding

pads, and wherein said inorganic film is formed between said organic film and said main surface of said semiconductor chip.--

Sub B1
--24. A semiconductor device according to claim 23, wherein an adhesion strength between said organic film and a resin material of said resin body is relatively greater than an adhesion strength between said inorganic film and said resin material of said resin body.--


--25. A semiconductor device according to claim 24, wherein said resin material of said resin body is an epoxy resin, wherein said organic film includes a polyimide resin film, and wherein said inorganic film includes a silicon oxide film and a silicon nitride film stacked on said silicon oxide film.--

Sub B2
--26. A semiconductor device according to claim 25, wherein said semiconductor chip is a silicon chip and said rear surface of said semiconductor chip is an exposed surface of silicon, and wherein an adhesion strength between said rear surface of said semiconductor chip and said resin material of said resin body is relatively greater than an adhesion strength between said die pad of said lead frame and said resin material of said resin body.--

--27. A semiconductor device according to claim 22, wherein said lead frame further includes suspension leads continuously formed with said die pad.--

--28. A semiconductor device according to claim 27, wherein said resin body has a tetragonal shape in said plane view, and wherein said suspension leads extend from said die pad toward four corners of said resin body.--

--29. A semiconductor device comprising:

 a semiconductor chip having a main surface and a rear surface opposite to said main surface, said semiconductor chip having a plurality of semiconductor elements and bonding pads formed on said main surface, and an organic film formed to cover said main surface, said organic film having openings exposing said bonding pads;

a lead frame having a die pad for supporting said semiconductor chip and a plurality of leads arranged to surround said die pad;

a plurality of bonding wires electrically connecting at least one end of each of said plurality of leads with corresponding ones of said plurality of bonding pads; and

a resin body sealing said semiconductor chip, parts of said plurality of leads, said die and said plurality of bonding wires, the other ends of said plurality of leads protruding outwardly from said resin body;

wherein a size of said die pad is smaller than a size of said semiconductor chip in a plane view;

wherein said semiconductor chip is disposed on said die pad such that said rear surface of said semiconductor chip is fixed to said die pad by an adhesive,

wherein parts of said resin body contact with said organic film of said semiconductor chip and a portion of said rear surface of said semiconductor chip except for an area to which said die pad is fixed.--

--30. A semiconductor device according to claim 29, wherein said semiconductor chip further includes an inorganic film to cover said main surface and expose said bonding pads, and wherein said inorganic film is formed between said organic film and said main surface of said semiconductor chip.--

Sub B3
~~--31. A semiconductor device according to claim 30, wherein an adhesion strength between said organic film and a resin material of said resin body is relatively greater than an adhesion strength between said inorganic film and said resin material of said resin body.--~~

--32. A semiconductor device according to claim 31, wherein said resin material of said resin body is an epoxy resin, wherein said organic film includes a polyimide resin film, and wherein said inorganic film includes a silicon oxide film and a silicon nitride film stacked on said silicon oxide film.--

Sub B4
~~--33. A semiconductor device according to claim 32, wherein said semiconductor chip is a silicon chip and said rear surface of said semiconductor chip is an exposed surface of silicon, and wherein an adhesion strength between said rear surface of said semiconductor chip and said resin material of said resin body is relatively greater than an adhesion strength between said die pad of said lead frame and said resin material of said resin body.--~~

--34. A semiconductor device according to claim 33, wherein said lead frame is selected from one of a Fe-Ni alloy and Cu.--